

CONFIDENTIAL

Technology-Enabled Business Services

Quarterly Update – 2018 Q2



TEBS Overview

Cherry Tree has been tracking trends and activity in the Technology Enabled Business Services (TEBS) space for more than 15 years, including the TEBS 100 index

TEBS companies are defined as those that:

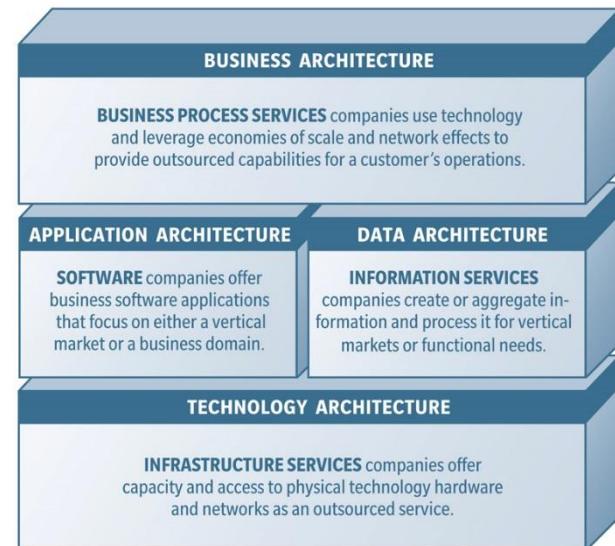
- *Offer a solution, product or service that is delivered or enhanced via technology*
- *Generate revenue primarily from other businesses ("B2B")*
- *Use their own intellectual property to differentiate their solution*

The TEBS 100 is a broad index of 100 publicly-traded companies. The four segments of the TEBS 100 align with the open architecture framework:

- *Business Process Services*
- *Software*
- *Information Services*
- *Infrastructure Services*

TEBS companies are consistently valued at a premium to the overall market due to fundamental business advantages

- *Recurring Revenue*
- *Operating Leverage*
- *High Switching Costs*



Cherry Tree Research, The Open Group

Valuation Multiples – 6/30/2018		
TEBS Segment	EV/Revenue	EV/EBITDA
Software	6.9x	22.1x
Information Services	6.0x	19.2x
Business Process Services	2.3x	15.3x
Infrastructure Services	4.4x	16.2x
S&P 500	3.1x	13.0x

TEBS 100

An index of 100 publicly-traded Technology Enabled Business Services companies

TEBS 100 Index Performance

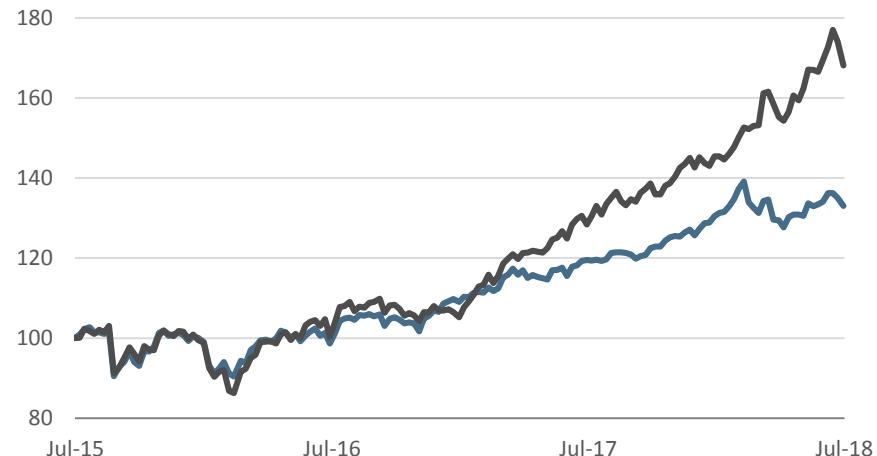
- The TEBS 100 continues to outperform the overall market over a three-year period (69% return over three years vs. 33% return)
- The long-term outperformance is most likely due to superior revenue growth from the TEBS 100

— S&P 500 — TEBS 100

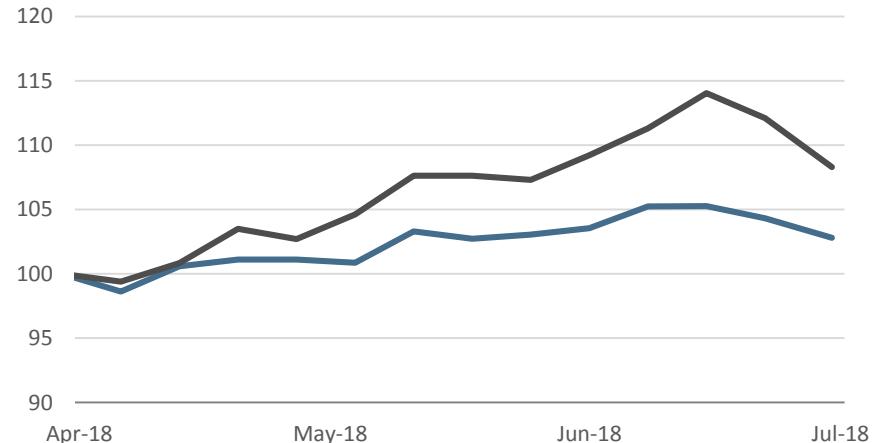
1-Year TEBS 100 Performance vs. S&P 500



3-Year TEBS 100 Performance vs. S&P 500



3-Month TEBS 100 Performance vs. S&P 500



TEBS 100 Segment Operating Metrics

- The revenue growth of the TEBS 100 index and three of its four segments continue outperform the S&P 500
- Gross margins for the TEBS 100 are nearly twice as high as the median S&P 500 company, allowing for greater operating leverage and potential for higher overall profitability
- However, EBITDA margins continue to lag the S&P 500, likely due to reinvestment of profits to drive revenue growth

Gross Margin			
	6/30/2016	6/30/2017	6/30/2018
Software	67.9%	68.8%	69.3%
Information Services	64.4%	64.3%	63.0%
Business Process Services	39.2%	39.4%	37.8%
Infrastructure Services	57.3%	57.9%	58.4%
TEBS 100	62.2%	63.6%	63.0%
S&P 500	42.6%	43.0%	43.8%

	Revenue Growth		
	6/30/2016	6/30/2017	6/30/2018
Software	17.4%	18.6%	16.0%
Information Services	8.6%	8.7%	10.9%
Business Process Services	6.2%	5.2%	7.1%
Infrastructure Services	18.4%	27.0%	23.4%
TEBS 100	12.0%	12.7%	13.7%
S&P 500	0.9%	4.5%	7.5%

EBITDA Margin			
	6/30/2016	6/30/2017	6/30/2018
Software	10.1%	9.6%	10.7%
Information Services	27.4%	27.3%	28.2%
Business Process Services	17.8%	17.7%	17.5%
Infrastructure Services	20.1%	20.3%	23.3%
TEBS 100	16.3%	16.5%	17.3%
S&P 500	22.8%	22.8%	23.0%

TEBS 100 SEGMENT PERFORMANCE

Software

Information Services

Business Process Services

Infrastructure Services

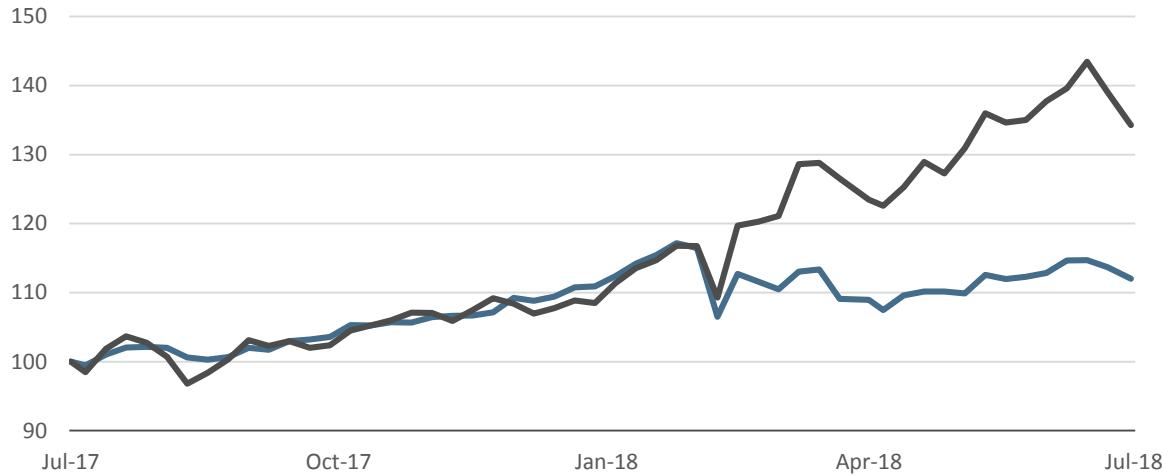
TEBS 100 Companies – Software

Company	Enterprise Value	LTM Revenue	Gross Margin	EBITDA Margin	EV/Revenue		Revenue Growth
					EBITDA	Revenue	
8x8, Inc.	\$1,712	\$297	76.0%	-6.5%	5.8x	n/m	17.0%
ACI Worldwide, Inc.	\$3,480	\$1,002	55.0%	15.7%	3.5x	22.1x	-0.9%
Adobe Systems Incorporated	\$114,935	\$8,122	86.8%	35.9%	14.2x	39.5x	24.5%
Allscripts Healthcare Solutions, Inc.	\$4,212	\$1,907	49.6%	7.6%	2.2x	29.1x	17.9%
Amber Road, Inc.	\$270	\$81	53.1%	-8.8%	3.4x	n/m	7.8%
American Software, Inc.	\$364	\$113	55.6%	17.4%	3.2x	18.6x	6.0%
athenahealth, Inc.	\$6,558	\$1,264	54.1%	16.8%	5.2x	30.9x	13.7%
Atlassian Corporation Plc	\$13,867	\$804	79.5%	-2.0%	17.2x	n/m	40.4%
Benefitfocus, Inc.	\$1,135	\$261	52.8%	0.3%	4.3x	n/m	10.7%
Blackbaud, Inc.	\$5,285	\$807	54.9%	17.3%	6.5x	37.7x	8.1%
Bottomline Technologies (de), Inc.	\$2,082	\$381	54.9%	11.9%	5.5x	n/m	10.8%
BlackLine, Inc.	\$2,207	\$190	76.9%	-9.0%	11.6x	n/m	41.1%
CA, Inc.	\$14,367	\$4,235	85.8%	31.2%	3.4x	10.9x	4.9%
Citrix Systems, Inc.	\$14,881	\$2,859	86.6%	30.0%	5.2x	17.4x	4.4%
Commvault Systems, Inc.	\$2,533	\$699	86.0%	1.5%	3.6x	n/m	8.4%
Cornerstone OnDemand, Inc.	\$2,656	\$504	71.0%	-5.3%	5.3x	n/m	15.6%
Ellie Mae, Inc.	\$3,335	\$442	60.3%	16.3%	7.5x	n/m	16.4%
Enghouse Systems Limited	\$1,465	\$263	69.4%	25.2%	5.6x	22.1x	7.6%
FireEye, Inc.	\$2,805	\$765	64.6%	-19.4%	3.7x	n/m	4.7%
Fiserv, Inc.	\$34,557	\$5,742	47.2%	31.8%	6.0x	18.9x	3.1%
Five9, Inc.	\$1,961	\$212	58.6%	3.4%	9.2x	n/m	24.0%
Fortinet, Inc.	\$9,190	\$1,553	74.8%	12.5%	5.9x	n/m	16.7%
HubSpot, Inc.	\$4,590	\$408	80.1%	-8.0%	11.3x	n/m	38.6%
Intuit Inc.	\$50,936	\$5,818	84.3%	31.1%	8.8x	28.2x	14.3%
Jack Henry & Associates, Inc.	\$10,124	\$1,503	43.2%	31.3%	6.7x	21.5x	6.3%
Manhattan Associates, Inc.	\$3,022	\$582	58.4%	31.6%	5.2x	16.5x	-2.8%
Medidata Solutions, Inc.	\$4,625	\$567	76.6%	15.5%	8.2x	n/m	16.5%
Mimecast Limited	\$2,366	\$262	73.4%	5.0%	9.0x	n/m	40.4%
MINDBODY, Inc.	\$1,629	\$194	71.5%	-2.8%	8.4x	n/m	30.2%

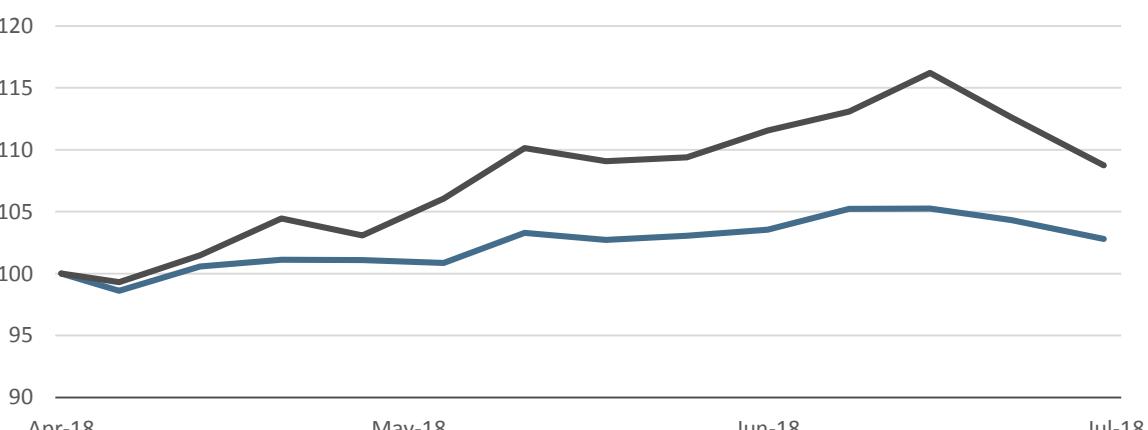
Company	Enterprise Value	LTM Revenue	Gross Margin	EBITDA Margin	EV/Revenue		Revenue Growth
					EBITDA	Revenue	
NIC Inc.	\$872	\$340	40.4%	24.5%	2.6x	10.5x	5.4%
Oracle Corporation	\$169,424	\$39,831	79.7%	41.0%	4.3x	10.4x	5.6%
Paycom Software, Inc.	\$5,804	\$467	85.5%	19.5%	12.4x	n/m	30.4%
Pegasystems Inc.	\$4,051	\$819	65.0%	0.7%	4.9x	n/m	-1.0%
Proofpoint, Inc.	\$5,947	\$562	71.9%	-5.5%	10.6x	n/m	36.4%
PROS Holdings, Inc.	\$1,260	\$177	59.5%	-28.0%	7.1x	n/m	13.6%
Q2 Holdings, Inc.	\$2,304	\$204	49.2%	-6.4%	11.3x	n/m	26.9%
QAD Inc.	\$811	\$320	51.3%	1.6%	2.5x	n/m	12.6%
Quality Systems, Inc.	\$1,253	\$531	54.5%	8.4%	2.4x	28.2x	4.2%
RealPage, Inc.	\$5,513	\$719	60.1%	15.4%	7.7x	n/m	21.4%
Red Hat, Inc.	\$22,484	\$3,057	85.2%	19.6%	7.4x	37.5x	21.3%
salesforce.com, inc.	\$98,162	\$11,089	73.9%	9.4%	8.9x	n/m	25.0%
ServiceNow, Inc.	\$29,740	\$2,093	74.8%	1.2%	14.2x	n/m	38.3%
Shopify Inc.	\$13,906	\$760	56.8%	-4.7%	18.3x	n/m	71.2%
Splunk Inc.	\$13,493	\$1,356	79.6%	-16.9%	10.0x	n/m	36.8%
SPS Commerce, Inc.	\$1,110	\$228	66.6%	9.4%	4.9x	n/m	14.1%
Symantec Corporation	\$15,699	\$4,846	78.7%	24.6%	3.2x	13.1x	20.6%
Tableau Software, Inc.	\$7,105	\$923	87.1%	-15.9%	7.7x	n/m	8.0%
The Descartes Systems Group Inc	\$2,516	\$250	72.8%	32.2%	10.1x	31.3x	19.4%
The Ultimate Software Group, Inc.	\$7,739	\$989	62.7%	9.5%	7.8x	n/m	20.2%
Tyler Technologies, Inc.	\$8,227	\$862	47.3%	22.8%	9.5x	n/m	11.0%
Upland Software, Inc.	\$867	\$109	65.8%	18.6%	8.0x	n/m	39.6%
Veeva Systems Inc.	\$10,106	\$721	69.1%	23.6%	14.0x	n/m	23.5%
VMware, Inc.	\$51,402	\$8,165	85.9%	26.9%	6.3x	23.4x	NA
Workday, Inc.	\$24,306	\$2,282	70.6%	-7.5%	10.7x	n/m	33.7%
25th Percentile	\$2,113	\$302	55.1%	-2.6%	4.9x	17.1x	7.8%
Median	\$4,608	\$720	69.3%	10.7%	6.9x	22.1x	16.4%
75th Percentile	\$13,773	\$1,541	78.3%	23.4%	9.5x	29.5x	25.0%

Segment Performance – Software

1-Year Stock Performance vs. S&P 500



3-Month Stock Performance vs. S&P 500



— S&P 500 — TEBS Software

Top Performers (1-Yr)



Bottomline
Technologies®

94.0%



90.7%



77.7%



74.2%



72.4%

(7.6%) BENEFITFOCUS®

(10.1%) Pega®

(12.1%) ORACLE®

(17.9%) NIC

(26.9%) Symantec

Bottom Performers (1-Yr)

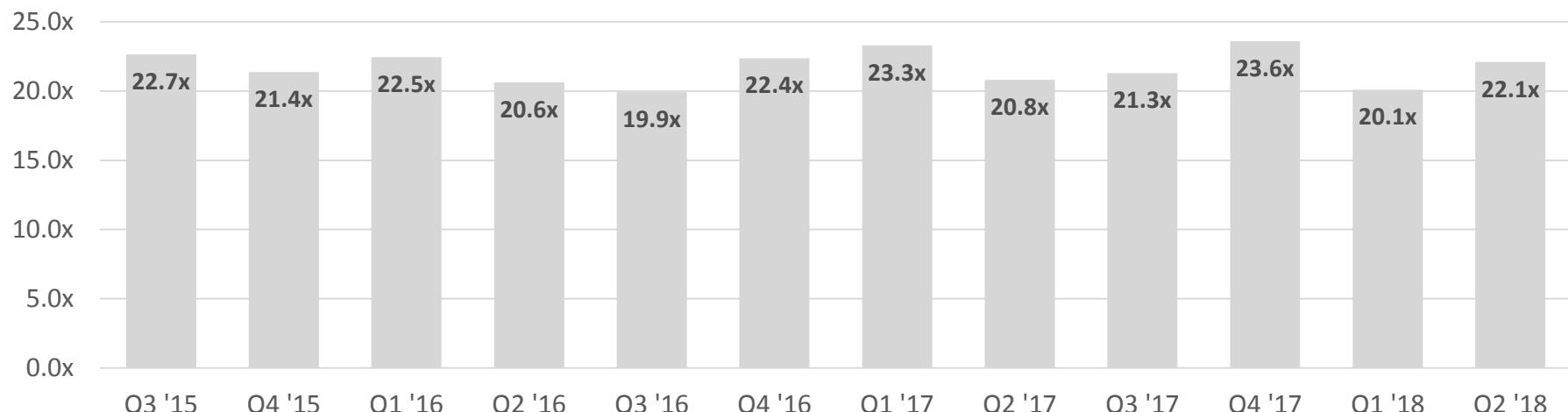
Source: Cherry Tree Research, Capital IQ: 6/30/2018

Segment Valuation – Software

Enterprise Value/Revenue



Enterprise Value/EBITDA



TEBS 100 Companies – Information Services

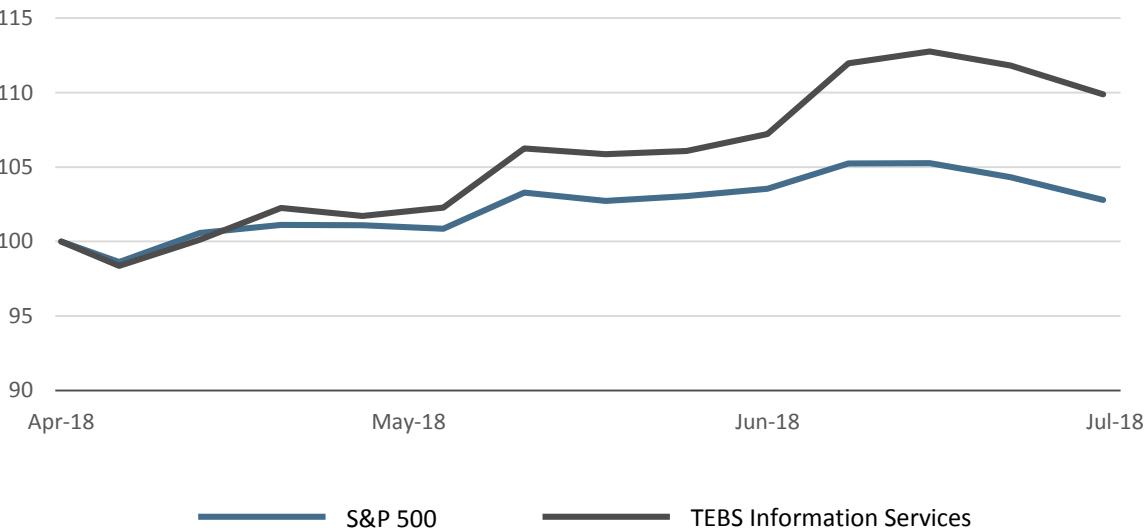
Company	Enterprise	LTM	Gross	EBITDA	EV/		Revenue
	Value	Revenue	Margin	Margin	Revenue	EBITDA	Growth
CoreLogic, Inc.	\$5,823	\$1,856	48.2%	21.6%	3.1x	14.6x	-4.3%
CoStar Group, Inc.	\$14,085	\$1,012	77.1%	26.3%	13.9x	n/m	17.1%
Equifax Inc.	\$17,490	\$3,396	63.1%	30.9%	5.2x	16.7x	4.5%
FactSet Research Systems Inc.	\$8,032	\$1,331	51.6%	32.7%	6.0x	18.4x	12.6%
Fair Isaac Corporation	\$6,365	\$977	69.5%	22.8%	6.5x	28.5x	5.9%
Forrester Research, Inc.	\$618	\$338	58.7%	8.8%	1.8x	20.7x	3.8%
Gartner, Inc.	\$14,912	\$3,650	60.6%	11.4%	4.1x	35.7x	45.3%
IHS Markit Ltd.	\$24,534	\$3,790	63.0%	32.3%	6.5x	20.0x	13.2%
Moody's Corporation	\$37,081	\$4,356	71.0%	47.1%	8.5x	18.1x	15.7%
Morningstar, Inc.	\$5,247	\$946	58.5%	27.0%	5.5x	20.6x	15.9%
Nielsen Holdings plc	\$19,402	\$6,656	57.6%	25.5%	2.9x	11.4x	4.9%
S&P Global Inc.	\$54,463	\$6,177	71.8%	48.4%	8.8x	18.2x	7.0%
The Dun & Bradstreet Corporation	\$5,707	\$1,779	67.9%	28.2%	3.2x	11.4x	4.0%
TransUnion	\$15,524	\$2,016	66.4%	36.5%	7.7x	21.1x	14.9%
Verisk Analytics, Inc.	\$20,417	\$2,224	63.0%	45.5%	9.2x	20.2x	10.9%
25th Percentile	\$6,094	\$1,172	58.6%	24.2%	3.6x	17.0x	4.5%
Median	\$14,912	\$2,016	63.0%	28.2%	6.0x	19.2x	10.9%
75th Percentile	\$19,909	\$3,720	68.7%	34.6%	8.1x	20.7x	15.7%

Segment Performance – Information Services

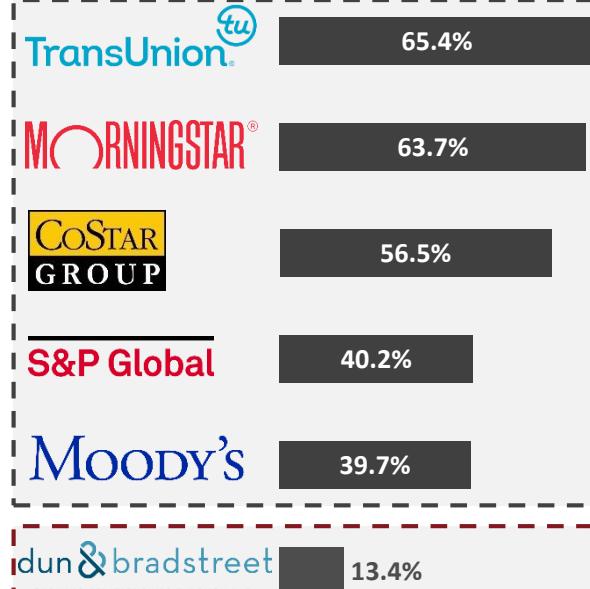
1-Year Stock Performance vs. S&P 500



3-Month Stock Performance vs. S&P 500



Top Performers (1-Yr)



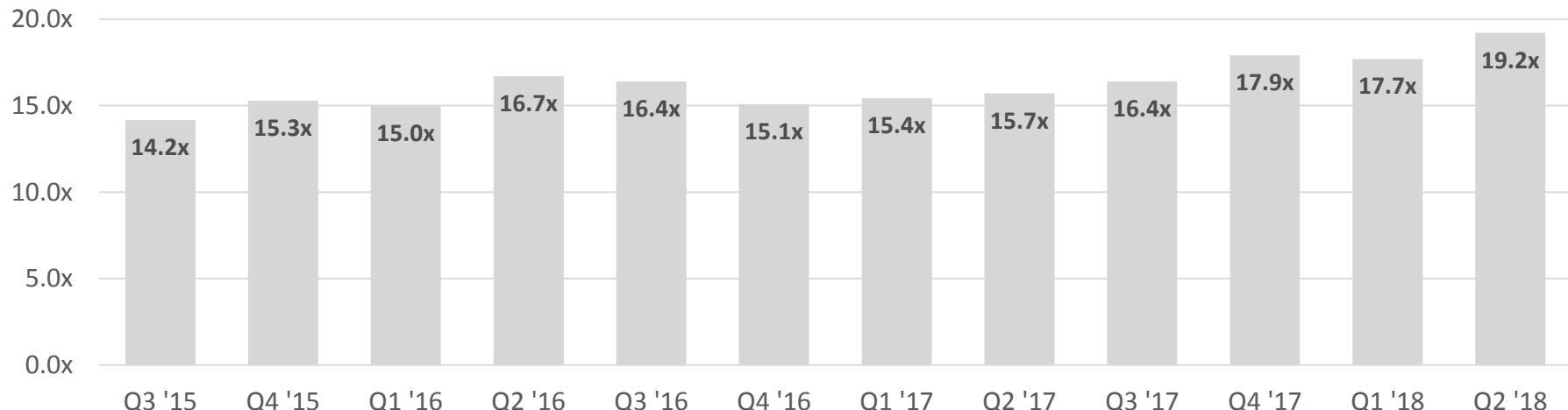
Bottom Performers (1-Yr)

Segment Valuation – Information Services

Enterprise Value/Revenue



Enterprise Value/EBITDA



TEBS 100 Companies – Business Process Services

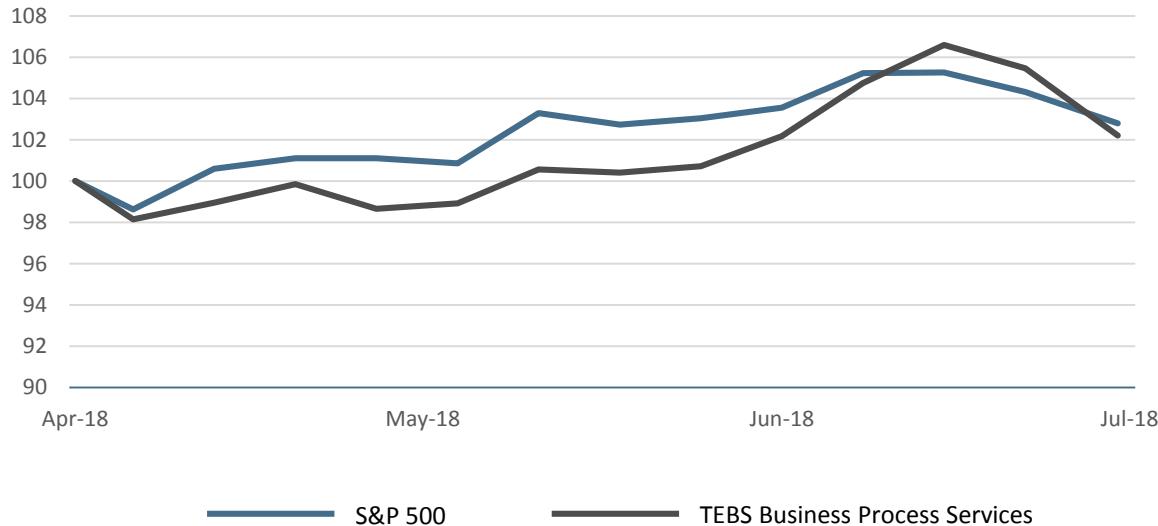
Company	Enterprise	LTM	Gross	EBITDA	EV/		Revenue
	Value	Revenue	Margin	Margin	Revenue	EBITDA	Growth
Amdocs Limited	\$8,931	\$3,916	34.8%	18.5%	2.3x	12.3x	3.3%
Automatic Data Processing, Inc.	\$58,800	\$13,072	42.8%	21.3%	4.5x	21.1x	7.0%
Broadridge Financial Solutions, Inc.	\$14,423	\$4,355	26.3%	18.9%	3.3x	17.6x	15.5%
Cimpres N.V.	\$5,454	\$2,526	50.8%	8.5%	2.2x	25.4x	23.2%
CSG Systems International, Inc.	\$1,515	\$799	50.2%	17.5%	1.9x	10.8x	4.1%
Conduent Incorporated	\$5,467	\$5,889	17.6%	11.9%	0.9x	7.8x	-6.2%
Global Payments Inc.	\$21,699	\$3,850	55.2%	30.1%	5.6x	18.7x	-5.4%
InnerWorkings, Inc.	\$562	\$1,136	24.5%	4.2%	0.5x	11.9x	4.2%
Exela Technologies, Inc.	\$2,036	\$1,327	26.2%	7.5%	1.5x	20.4x	64.2%
Paychex, Inc.	\$24,113	\$3,381	69.9%	42.2%	7.1x	16.9x	7.3%
PFSweb, Inc.	\$212	\$272	30.8%	6.9%	0.8x	11.4x	-3.1%
Genpact Limited	\$6,392	\$2,803	37.8%	14.9%	2.3x	15.3x	8.5%
TTEC Holdings, Inc.	\$1,818	\$1,514	24.7%	12.5%	1.2x	9.6x	16.4%
Worldpay, Inc.	\$32,743	\$3,949	63.4%	25.3%	8.3x	32.7x	7.1%
WageWorks, Inc.	\$1,334	\$462	63.3%	19.9%	2.9x	14.6x	33.1%
25th Percentile	\$1,667	\$1,232	26.3%	10.2%	1.4x	11.6x	3.3%
Median	\$5,467	\$2,803	37.8%	17.5%	2.3x	15.3x	7.1%
75th Percentile	\$18,061	\$3,933	53.0%	20.6%	3.9x	19.6x	16.4%

Segment Performance – Business Process Services

1-Year Stock Performance vs. S&P 500



3-Month Stock Performance vs. S&P 500



Top Performers (1-Yr)

 **cimpress** 53.3%

 **Broadridge** 52.3%

 **ADP** 30.9%

 **worldpay** 29.1%

 **globalpayments** 23.4%

 **amdocs** 2.7%

 **CSG INTERNATIONAL** 0.7%

 **TeleTech**

 **InnerWorkings**
we make marketing happen.

 **WageWorks**

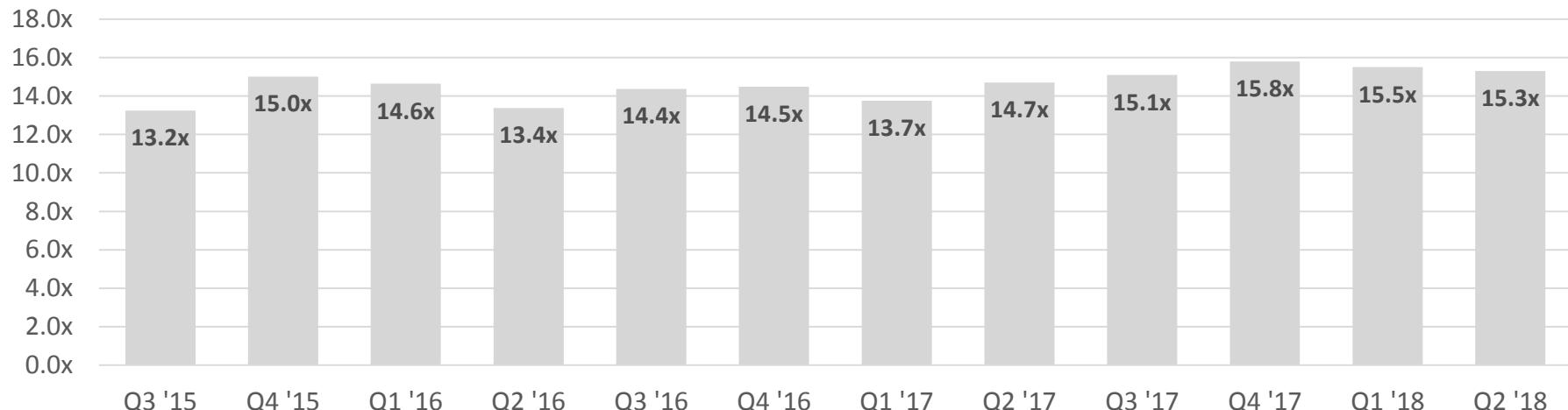
Bottom Performers (1-Yr)

Segment Valuation – Business Process Services

Enterprise Value/Revenue



Enterprise Value/EBITDA

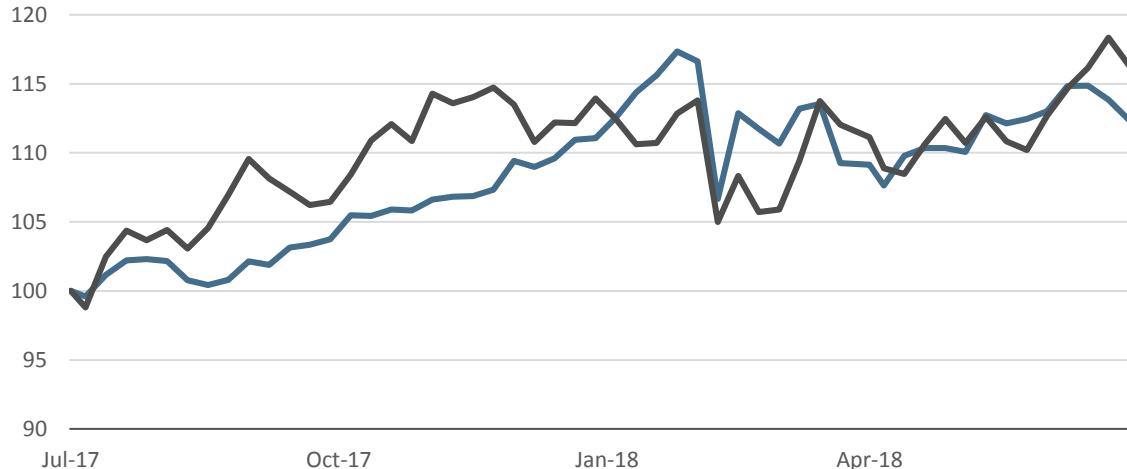


TEBS 100 Companies – Infrastructure Services

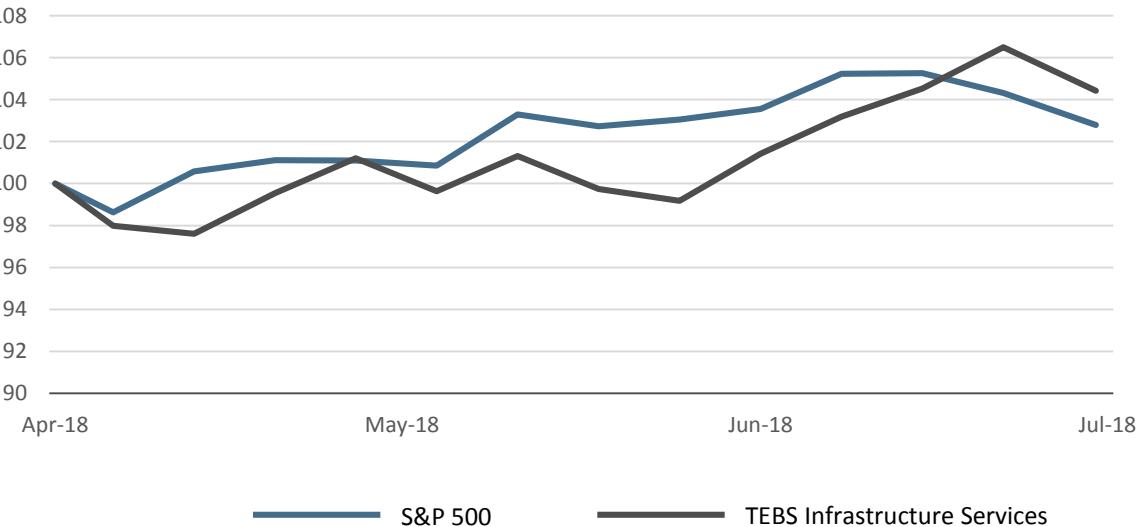
Company	Enterprise	LTM	Gross	EBITDA	EV/		Revenue
	Value	Revenue	Margin	Margin	Revenue	EBITDA	Growth
Akamai Technologies, Inc.	\$12,352	\$2,571	64.8%	25.2%	4.8x	19.1x	8.4%
Boingo Wireless, Inc.	\$941	\$218	33.0%	28.5%	4.3x	15.1x	29.0%
Box, Inc.	\$3,382	\$529	73.3%	-20.4%	6.4x	n/m	24.4%
Carbonite, Inc.	\$1,130	\$246	71.6%	7.5%	4.6x	n/m	14.1%
Cogent Communications Holdings, Inc.	\$2,882	\$485	58.4%	31.6%	5.9x	18.8x	8.8%
Endurance International Group Holdings, Inc.	\$3,215	\$1,173	51.5%	25.1%	2.7x	10.9x	0.3%
Equinix, Inc. (REIT)	\$43,238	\$4,635	49.4%	44.2%	9.3x	21.1x	24.7%
GoDaddy Inc.	\$13,059	\$2,375	65.7%	14.3%	5.5x	38.6x	24.8%
Gogo Inc.	\$1,132	\$766	50.7%	13.0%	1.5x	11.4x	23.4%
GTT Communications, Inc.	\$3,644	\$903	47.0%	23.3%	4.0x	17.3x	53.3%
Internap Corporation	\$860	\$283	54.7%	29.3%	3.0x	10.4x	-4.0%
Limelight Networks, Inc.	\$451	\$192	58.0%	11.4%	2.4x	20.6x	11.8%
Pure Storage, Inc.	\$4,846	\$1,096	65.4%	-11.6%	4.4x	n/m	42.3%
Web.com Group, Inc.	\$1,927	\$751	67.8%	19.5%	2.6x	13.2x	0.0%
Zayo Group Holdings, Inc.	\$14,567	\$2,584	63.8%	45.8%	5.6x	12.3x	24.9%
25th Percentile	\$1,131	\$384	51.1%	12.2%	2.9x	12.1x	8.4%
Median	\$3,215	\$766	58.4%	23.3%	4.4x	16.2x	23.4%
75th Percentile	\$8,599	\$1,774	65.5%	28.9%	5.6x	19.5x	24.9%

Segment Performance – Infrastructure Services

1-Year Stock Performance vs. S&P 500 – Update Chart



3-Month Stock Performance vs. S&P 500



Top Performers (1-Yr)

PURE STORAGE 86.1%

Go Daddy® 66.4%

CARBONITE 60.1%

Limelight NETWORKS 54.7%

Akamai 51.0%

ENDURANCE International Group 18.1%

web.com® 2.2%

EQUINIX 0.2%

(29.0%) **INAP** COLO | CLOUD | NETWORK

(57.8%) **gogo**

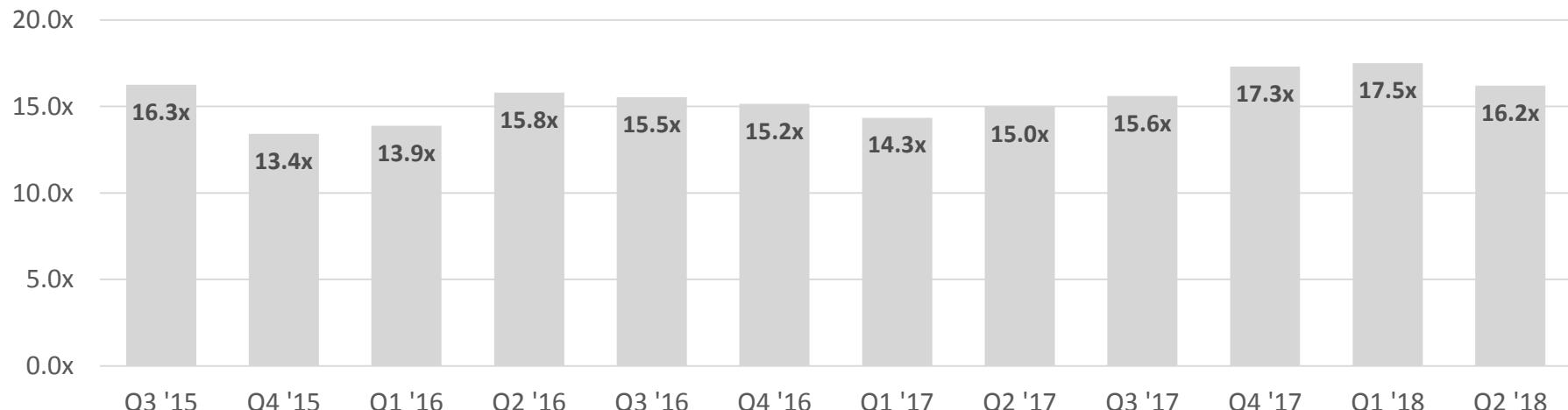
Bottom Performers (1-Yr)

Segment Valuation – Infrastructure Services

Enterprise Value/Revenue



Enterprise Value/EBITDA



M&A ACTIVITY

Select M&A Transactions

Date	Target	Acquirer	Enterprise	EV/			EBITDA		Margin	Segment
			Value	Revenue	EBITDA	Revenue	EBITDA	Margin		
6/29/2018	Radisys Corporation (NasdaqGS:RSYS)	Reliance Industries Limited (NSEI:RELIANCE)	\$87.6	0.7x	-	\$122.4	-\$27.5	-		Software
6/28/2018	Convergys Corporation (NYSE:CVG)	Concentrix Corporation	\$2,534.0	0.9x	7.4x	\$2,738.7	\$342.4	12.5%		Business Process Services
6/28/2018	RO Innovation, Inc.	Qvidian Corporation	\$14.3	2.4x	-	\$6.0	-	-		Software
6/27/2018	Wireless Logic Group Ltd.	Montagu Private Equity LLP	-	-	-	-	-	-		Business Process Services
6/26/2018	inMotionNow, Inc.	Level Equity Management, LLC	-	-	-	-	-	-		Software
6/26/2018	OnFarm Systems Inc.	SWIIM System, LLC	-	-	-	-	-	-		Software
6/26/2018	TekLinks Incorporated	Cellular South, Inc.	-	-	-	-	-	-		Business Process Services
6/26/2018	Zemax Software Holdings, LLC	EQT Partners AB	-	-	-	-	-	-		Software
6/25/2018	iManaged Solutions, LLC	Netgain Technology, Inc.	-	-	-	-	-	-		Business Process Services
6/25/2018	Thoreau Holdco and Navigant Consulting (Europe)	Ankura Consulting Group, LLC	\$470.0	1.5x	11.9x	\$305.0	\$39.4	12.9%		Business Process Services
6/25/2018	Velocity Mail, Certain Assets	The Descartes Systems Group Inc (TSX:DSG)	\$25.5	-	-	-	-	-		Software
6/25/2018	DH Corporation, Collateral Management Business	CM Solutions, Inc.	-	-	-	-	-	-		Software
6/25/2018	NHI Billing Services, Inc.	Centauri Health Solutions, Inc.	-	-	-	-	-	-		Business Process Services
6/25/2018	DCS Global Systems, Inc.	Tritium Partners	-	-	-	-	-	-		Software
6/25/2018	TransparINT, LLC	Steele Compliance Solutions, Inc.	-	-	-	-	-	-		Software
6/25/2018	AppNexus Inc.	AT&T Inc. (NYSE:T)	-	-	-	-	-	-		Software
6/21/2018	Web.com Group, Inc. (NasdaqGS:WEB)	Siris Capital Group, LLC	\$1,864.3	2.5x	12.7x	\$750.9	\$146.5	19.5%		Infrastructure Services
6/21/2018	AT&T Corp., Data Center Colocation Operations	Brookfield Infrastructure Partners L.P. (NYSE:BIP)	\$1,100.0	-	-	-	-	-		Infrastructure Services
6/21/2018	Simility, Inc.	PayPal Holdings, Inc. (NasdaqGS:PYPL)	\$123.7	-	-	-	-	-		Software
6/21/2018	Delivra, Inc./Emma, Inc.	Campaign Monitor Pty Limited	-	-	-	-	-	-		Software
6/21/2018	Pierbridge, Inc.	Wisetech Global Limited (ASX:WTC)	\$59.4	6.4x	-	\$9.3	-	-		Software
6/20/2018	RateWatch, Inc.	S&P Global Inc. (NYSE:SPGI)	\$33.5	4.4x	-	\$7.7	-	-		Information Services
6/19/2018	Zebu Compliance Solutions	United Claim Solutions, LLC	-	-	-	-	-	-		Software
6/19/2018	Cotiviti Holdings, Inc. (NYSE:COTV)	Verscend Technologies, Inc.	\$4,936.6	6.7x	17.1x	\$737.6	\$288.4	39.1%		Software
6/19/2018	Hyperwallet Systems Inc.	PayPal Holdings, Inc. (NasdaqGS:PYPL)	\$400.0	-	-	-	-	-		Software
6/19/2018	Drillinginfo, Inc.	Genstar Capital, LLC	-	-	-	-	-	-		Information Services
6/19/2018	July Systems Inc.	Cisco Systems, Inc. (NasdaqGS:CSCO)	-	-	-	-	-	-		Software
6/18/2018	Malauzai Software, Inc.	Finastra Group Holdings Limited	-	-	-	-	-	-		Software
6/14/2018	Slickdeals, LLC	The Hearst Corporation; Goldman Sachs Group	-	-	-	-	-	-		Information Services
6/14/2018	Intelenet Global Services Private Ltd.	Teleperformance SE (ENXTPA:TEP)	\$1,000.0	2.2x	12.0x	\$449.0	\$83.0	18.5%		Business Process Services
6/14/2018	Global Software, Inc.	InsightSoftware.com Limited	-	-	-	-	-	-		Software
6/13/2018	Email Aptitude LLC	Elite SEM Inc.	-	-	-	-	-	-		Business Process Services
6/12/2018	MeridianLink, Inc.	Thoma Bravo, LLC	-	-	-	-	-	-		Software
6/12/2018	CRIF Corporation	Thoma Bravo, LLC	-	-	-	-	-	-		Software
6/12/2018	SHYFT Analytics, Inc.	Medidata Solutions, Inc. (NasdaqGS:MDSO)	\$195.0	-	-	-	-	-		Information Services
6/12/2018	FacilitySource, Inc.	CBRE Group, Inc. (NYSE:CBRE)	\$290.0	-	-	-	-	-		Software
6/12/2018	KORE Software, Inc.	Serent Capital	-	-	-	-	-	-		Software

Select M&A Transactions (Cont'd)

Date	Target	Acquirer	Enterprise	EV/			EBITDA		Margin	Segment
			Value	Revenue	EBITDA	Revenue	EBITDA			
6/11/2018	Adaptive Insights, Inc. (NYSE:ADIN)	Workday, Inc. (NasdaqGS:WDAY)	\$1,550.0	13.6x	-	\$114.3	-\$37.3	-	-	Software
6/11/2018	Jobson Healthcare Information LLC	WebMD Health Corp.	-	-	-	-	-	-	-	Business Process Services
6/11/2018	VictorOps Inc.	Splunk Inc. (NasdaqGS:SPLK)	\$120.0	-	-	-	-	-	-	Software
6/8/2018	Rallyteam	Workday, Inc. (NasdaqGS:WDAY)	-	-	-	-	-	-	-	Software
6/7/2018	iMobile3, LLC	Total System Services, Inc. (NYSE:TSS)	-	-	-	-	-	-	-	Software
6/7/2018	NetRate Systems, Inc.	Polaris Partners	-	-	-	-	-	-	-	Software
6/6/2018	Scribe Software Corporation	TIBCO Software Inc.	-	-	-	-	-	-	-	Software
6/6/2018	Ipes (Guernsey) Limited	Apex Fund Services (Bermuda) Ltd	-	-	-	-	-	-	-	Business Process Services
6/6/2018	mTAB LLC	Milestone Partners	-	-	-	-	-	-	-	Software
6/5/2018	VLinks Media, LLC	Showpad BVBA	\$50.0	-	-	-	-	-	-	Software
6/5/2018	Zerofootprint Software Inc.	CarbonX Personal Carbon Trading Inc.	-	-	-	-	-	-	-	Software
6/4/2018	Integral Ad Science, Inc.	Vista Equity Partners LLC	-	-	-	-	-	-	-	Software
6/4/2018	EMS Software, LLC	Accruent, LLC	-	-	-	-	-	-	-	Software
6/4/2018	GitHub, Inc.	Microsoft Corporation (NasdaqGS:MSFT)	\$7,500.0	-	-	-	-	-	-	Software
6/1/2018	Millennium Process Group Inc.	Merchants Sa (pty) Ltd.	-	-	-	-	-	-	-	Business Process Services
6/1/2018	MLW Squared, Inc.	Quotient Technology Inc. (NYSE:QUOT)	\$50.0	-	-	-	-	-	-	Software
5/31/2018	Fulcrum Financial Data, LLC	Fitch Group, Inc.	-	-	-	-	-	-	-	Information Services
5/31/2018	TriTech Software Systems Inc.	Bain Capital, LP	-	-	-	-	-	-	-	Software
5/31/2018	LogRhythm, Inc.	Thoma Bravo, LLC	-	-	-	-	-	-	-	Software
5/30/2018	Dealflo Limited	VASCO Data Security International (NasdaqCM:VDSI)	\$55.0	-	-	-	-	-	-	Business Process Services
5/30/2018	Jetlore, Inc.	PayPal Holdings, Inc. (NasdaqGS:PYPL)	-	-	-	-	-	-	-	Software
5/30/2018	EvoSwitch Netherlands/EvoSwitch Global Services	Iron Mountain Incorporated (NYSE:IRM)	\$235.0	-	-	-	-	-	-	Infrastructure Services
5/30/2018	FrontStream Holdings, LLC	Marlin Equity Partners, LLC	-	-	-	-	-	-	-	Software
5/30/2018	Robustwealth LLC	Principal Financial Group, Inc. (NasdaqGS:PFG)	-	-	-	-	-	-	-	Software
5/29/2018	TMC Bonds L.L.C.	Intercontinental Exchange, Inc. (NYSE:ICE)	\$685.0	-	-	-	-	-	-	Software
5/29/2018	BMC Software, Inc.	KKR & Co. L.P. (NYSE:KKR)	-	-	-	-	-	-	-	Software
5/29/2018	Aspirion Health Resources, LLC	Aquiline Capital Partners LLC	-	-	-	-	-	-	-	Business Process Services
5/25/2018	HireRight, LLC	General Information Services, Inc.	-	-	-	-	-	-	-	Business Process Services
5/22/2018	Alerian Capital Management, LLC	Aretex Capital Partners	-	-	-	-	-	-	-	Information Services
5/21/2018	Magento, Inc.	Adobe Systems Incorporated (NasdaqGS:ADBE)	\$1,680.0	11.2x	-	\$150.0	-	-	-	Software
5/21/2018	PowerPlan, Inc.	Roper Technologies, Inc. (NYSE:ROP)	\$1,100.0	-	-	-	-	-	-	Software
5/21/2018	Ipreo Holdings LLC	IHS Markit Ltd. (NasdaqGS:INFO)	\$1,855.0	-	-	-	-	-	-	Information Services
5/21/2018	GlobalLogic Inc.	Canada Pension Plan Investment Board	\$2,000.0	-	-	-	-	-	-	Business Process Services
5/18/2018	Healthcare Payment Specialists, LLC	TransUnion (NYSE:TRU)	-	-	-	-	-	-	-	Business Process Services
5/18/2018	iovation Inc.	TransUnion (NYSE:TRU)	-	-	-	-	-	-	-	Software
5/17/2018	Sageworks, Inc.	Accel-KKR LLC	-	-	-	-	-	-	-	Information Services
5/17/2018	iZettle AB	PayPal Holdings, Inc. (NasdaqGS:PYPL)	\$2,200.0	-	-	-	-	-	-	Software

Select M&A Transactions (Cont'd)

Date	Target	Acquirer	Enterprise	EV/		EBITDA		Margin	Segment
			Value	Revenue	EBITDA	Revenue	EBITDA		
5/17/2018	Symphony Commerce, Inc.	Quantum Retail Technology, Inc.	-	-	-	-	-	-	Software
5/17/2018	RelationEdge, LLC	Rackspace Hosting, Inc.	-	-	-	-	-	-	Business Process Services
5/11/2018	Cognito LLC	WestView Capital Partners	-	-	-	-	-	-	Software
5/11/2018	Ovation Credit Services, Inc.	LendingTree, Inc. (NasdaqGS:TREE)	\$20.8	-	-	-	-	-	Business Process Services
5/10/2018	WordStream, Inc.	Gannett Co., Inc. (NYSE:GCI)	\$150.0	-	-	-	-	-	Software
5/9/2018	LogoMix Inc.	Deluxe Corporation (NYSE:DLX)	\$43.0	-	-	-	-	-	Business Process Services
5/8/2018	Glassdoor, Inc.	Recruit Holdings Co.,Ltd. (TSE:6098)	\$1,200.0	7.0x	-	\$170.8	-	-	Information Services
5/7/2018	athenahealth, Inc. (NasdaqGS:ATHN)	Elliott Management Corporation	\$6,833.1	5.4x	32.2x	\$1,264.3	\$211.9	16.8%	Software
5/2/2018	Rippe & Kingston, LLC	ParkerGale, LLC	-	-	-	-	-	-	Software
5/2/2018	Imagine Software Inc.	Mountaigate Capital Management, L.P.	-	-	-	-	-	-	Software
5/2/2018	OANDA Corporation	CVC Capital Partners Limited	-	-	-	-	-	-	Information Services
5/2/2018	Justice Systems, Inc.	Ontario Systems, LLC	-	-	-	-	-	-	Software
5/2/2018	CipherHealth LLC	JMI Equity	-	-	-	-	-	-	Software
5/1/2018	Sage Data Security, LLC	Tyler Technologies, Inc. (NYSE:TYL)	\$11.5	-	-	-	-	-	Business Process Services
5/1/2018	Cloud Savings Company Limited	Groupon, Inc. (NasdaqGS:GRPN)	\$65.0	-	-	-	-	-	Software
5/1/2018	Reeher LLC	Blackbaud, Inc. (NasdaqGS:BLKB)	\$43.0	-	-	-	-	-	Software
5/1/2018	CRMfusion Inc.	Validity, Inc.	-	-	-	-	-	-	Software
5/1/2018	Accompani, Inc.	Cisco Systems, Inc. (NasdaqGS:CSCO)	\$270.0	-	-	-	-	-	Software
5/1/2018	SCIOnspire, Corp.	Exi Service.com, LLC	\$240.0	-	-	-	-	-	Software
5/1/2018	RPX Corporation (NasdaqGS:RPXC)	HGGC, LLC	\$384.9	1.2x	2.0x	\$322.2	\$190.9	59.3%	Business Process Services
4/30/2018	Bizable, Inc.	Marketo, Inc.	-	-	-	-	-	-	Software
4/30/2018	Conduent Incorporated (NYSE:CNDT), Select Assets	H.I.G. Capital, LLC	-	-	-	-	-	-	Business Process Services
4/30/2018	Vocado, LLC	Oracle Corporation (NYSE:ORCL)	-	-	-	-	-	-	Software
4/30/2018	Pitney Bowes Inc., Document Messaging Tech.	Platinum Equity, LLC	\$361.0	-	-	-	-	-	Business Process Services
4/30/2018	Financial Engines, Inc. (NasdaqGS:FNGN)	Edelman Financial Services LLC	\$3,016.5	6.3x	27.1x	\$480.5	\$111.3	23.2%	Business Process Services
4/26/2018	Weebly, Inc.	Square, Inc. (NYSE:SQ)	\$365.0	-	-	-	-	-	Software
4/26/2018	Mattersight Corporation (NasdaqGM:MATR)	NICE Systems Inc.	\$116.9	2.5x	-	\$46.5	-\$5.9	-	Software
4/26/2018	US Colo, LLC	CoreSite Realty Corporation (NYSE:COR)	\$8.6	-	-	-	-	-	Infrastructure Services
4/26/2018	Mitchell International, Inc.	Stone Point Capital LLC	-	-	-	-	-	-	Software
4/26/2018	Dealer Marketing Services, Inc.	Sackett National Holdings, Inc.	-	-	-	-	-	-	Software
4/25/2018	Convergence Training, LLC	Vector-Solutions.com, Inc.	-	-	-	-	-	-	Software
4/25/2018	Globalstar, Inc. (AMEX:GSAT)	Thermo Acquisitions, Inc.	-	-	-	-	-	-	Infrastructure Services
4/25/2018	DataSync Technologies	Harmony Technology Services, Inc.	-	-	-	-	-	-	Business Process Services
4/25/2018	Benefit Planning Consultants, Inc.	Ascensus, LLC	-	-	-	-	-	-	Business Process Services
4/24/2018	PeopleFluent, Inc.	Learning Technologies Group plc (AIM:LTG)	\$150.0	1.4x	11.2x	\$106.6	\$13.4	12.6%	Software
4/24/2018	Grapeshot Limited	Oracle Corporation (NYSE:ORCL)	-	-	-	-	-	-	Software
4/24/2018	Credit2B LLC	Billtrust, Inc.	-	-	-	-	-	-	Information Services

Select M&A Transactions (Cont'd)

Date	Target	Acquirer	Enterprise	EV/			EBITDA		Margin	Segment
			Value	Revenue	EBITDA	Revenue	EBITDA	Margin		
4/24/2018	Inspired Review LLC and Envision Discovery LLC	Haystack Information Discovery	-	-	-	-	-	-	-	Business Process Services
4/24/2018	Mitel Networks Corporation (NasdaqGS:MITL)	Searchlight Capital Partners	\$2,079.6	1.8x	14.4x	\$1,149.8	\$144.4	12.6%	-	Software
4/24/2018	CityFibre Infrastructure Holdings Plc (AIM:CITY)	Antin Infra. Partners; West Street Infra. Partners	\$617.9	13.1x	165.6x	\$47.0	\$3.7	7.9%	-	Infrastructure Services
4/24/2018	Stratalux Inc.	Reliam, Inc.	-	-	-	-	-	-	-	Business Process Services
4/23/2018	TMP Worldwide Advertising & Communications, LLC	Gemspring Capital LLC	-	-	-	-	-	-	-	Business Process Services
4/23/2018	Viewpoint, Inc.	Trimble Inc. (NasdaqGS:TRMB)	\$1,200.0	0.5x	-	\$2,650.0	-	-	-	Software
4/20/2018	Vendorhawk Inc.	ServiceNow, Inc. (NYSE:NOW)	-	-	-	-	-	-	-	Software
4/20/2018	Fidessa group plc (LSE:FDSA)	Ion Investment Group Limited	\$2,021.8	4.2x	22.6x	\$478.4	\$89.4	18.7%	-	Software
4/20/2018	CLICKPAYSERVICES, INC.	RealPage, Inc. (NasdaqGS:RP)	\$218.5	-	-	-	-	-	-	Software
4/20/2018	Callcredit Information Group Limited	TransUnion LLC	\$1,403.0	-	-	-	-	-	-	Information Services
4/19/2018	Paybox Corp.	Output Services Group, Inc.	-	-	-	-	-	-	-	Software
4/18/2018	Socrata, Inc.	Tyler Technologies, Inc. (NYSE:TYL)	\$150.0	6.0x	-	\$25.0	-	-	-	Software
4/18/2018	Remote DBA Experts, LLC	Madison Dearborn Partners, LLC	-	-	-	-	-	-	-	Business Process Services
4/17/2018	Spirion, LLC	The Riverside Company	-	-	-	-	-	-	-	Software
4/17/2018	LogicMonitor, Inc.	Vista Equity Partners LLC	-	-	-	-	-	-	-	Software
4/17/2018	ReSource Pro, LLC	DFW Capital Partners	-	-	-	-	-	-	-	Business Process Services
4/17/2018	Tax Guard, Inc.	Falfurrias Capital Partners	-	-	-	-	-	-	-	Business Process Services
4/17/2018	LogicMonitor, Inc.	Vista Equity Partners LLC	-	-	-	-	-	-	-	Software
4/12/2018	Salsa Labs, Inc.	Accel-KKR LLC	-	-	-	-	-	-	-	Software
4/12/2018	Xeeva, Inc.	Peak Equity Partners	-	-	-	-	-	-	-	Software
4/12/2018	SiteLock, LLC	ABRY Partners, LLC	-	-	-	-	-	-	-	Software
4/12/2018	Actian Corporation	HCL Technologies Limited; Sumeru Equity Partners	\$330.0	3.1x	8.6x	\$107.1	\$38.5	35.9%	-	Software
4/9/2018	VeriFone Systems, Inc. (NYSE:PAY)	British Columbia Invest. Mgmt.; Francisco Partners	\$3,292.5	1.8x	14.6x	\$1,853.9	\$226.2	12.2%	-	Software
4/9/2018	RevTrak, Inc.	Connexeo Inc.	-	-	-	-	-	-	-	Software
4/9/2018	Connexeo Inc.	Great Hill Partners, LLC	-	-	-	-	-	-	-	Software
4/9/2018	OccupEye Limited	Asure Software, Inc. (NasdaqCM:ASUR)	-	-	-	-	-	-	-	Software
4/4/2018	Cherwell Software, LLC	KKR & Co. L.P. (NYSE:KKR)	-	-	-	-	-	-	-	Software
4/4/2018	American Mortgage Consultants, Inc.	Stone Point Capital LLC	-	-	-	-	-	-	-	Business Process Services
4/3/2018	Bomgar Corporation	Francisco Partners Management LLC	-	-	-	-	-	-	-	Software
4/3/2018	Key Information Systems, Inc.	Converge Technology Partners Inc.	-	-	-	-	-	-	-	Infrastructure Services
4/3/2018	CM2.Com, Inc.	Zix Corporation (NasdaqGS:ZIXI)	\$16.1	5.4x	-	\$3.0	-	-	-	Software
4/3/2018	RMG Networks Holding (NasdaqCM:RMGN)	SCG Digital, LLC	\$14.3	0.4x	-	\$37.0	-\$1.8	-	-	Software
4/3/2018	Wind River Systems, Inc.	TPG Capital, L.P.	-	-	-	-	-	-	-	Software
4/3/2018	MedBridge Inc.	LLR Partners Inc.	-	-	-	-	-	-	-	Software
4/2/2018	Wells Fargo Bank N.A., Payroll Processing Accounts	Asure Software, Inc. (NasdaqCM:ASUR)	\$10.5	-	-	-	-	-	-	Business Process Services
4/2/2018	Austin HR, LLC	Asure Software, Inc. (NasdaqCM:ASUR)	\$6.0	-	-	-	-	-	-	Business Process Services
4/2/2018	Bunchball Inc.	Schoeneckers, Inc.	-	-	-	-	-	-	-	Software

ABOUT CHERRY TREE & ASSOCIATES

Cherry Tree & Associates Overview

Cherry Tree & Associates provides a broad array of M&A advisory services to owner-operators, private equity firms, corporations, management teams and public companies.

M&A Services

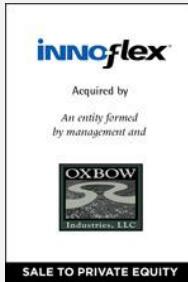
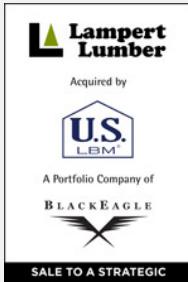
- Sell-side Advisory
- Recapitalizations
- Non-core Divestitures
- Management-led Buyouts
- Buy-side Advisory

Highlights

- Based on over 30 years of growing and advising hundreds of entrepreneurial companies
- Been advisor or principal in more than 300 transactions
- Completed over \$3 billion in transactions in the past 10 years
- Expertise in multiple industries
- Experience completing transactions globally
- Cherry Tree professionals have closed deals with leading private equity and venture capital firms
- 13 M&A professionals

RECENT M&A ENGAGEMENTS

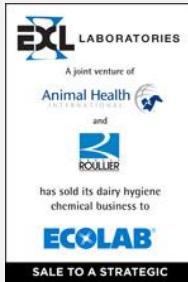
Sell-side Advisory



Recapitalizations



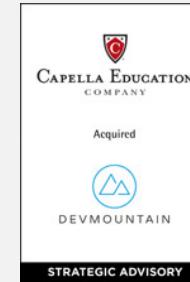
Non-core Divestitures



Management-led Buyouts



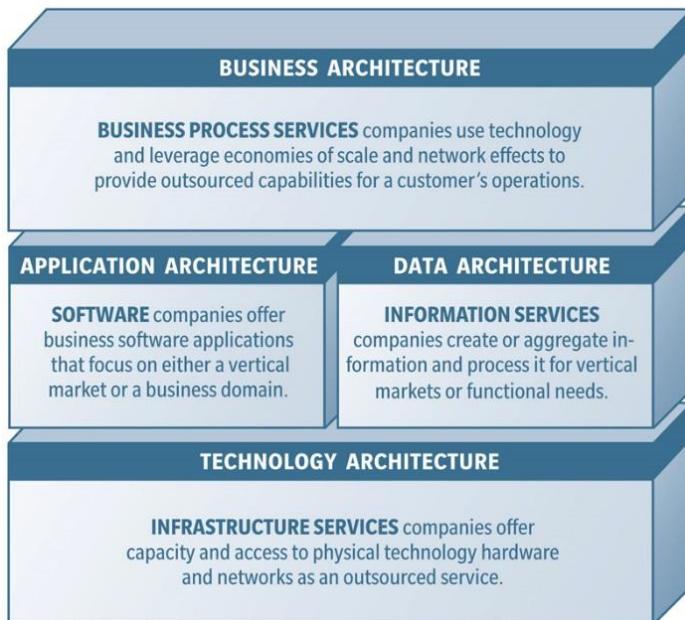
Buy-side Advisory



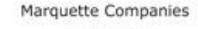
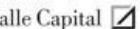
TEBS Expertise

Cherry Tree has been tracking trends and activity in the Technology Enabled Business Services (TEBS) space for more than 15 years. TEBS companies are defined as those that:

- Offer a solution, product or service that is delivered or enhanced via technology
- Generate revenue primarily from other businesses ("B2B")
- Use their own intellectual property to differentiate their solution



SELECT TRANSACTIONS

 Acquired  STRATEGIC ADVISORY	 Has Partnered With  Norwest Equity Partners PRIVATE EQUITY TRANSACTION	 (OTC:CTIG) Acquired by  Enghouse Systems Software engineered for results SALE TO A STRATEGIC
 Welcomes as an Equity Partner  SALE TO PRIVATE EQUITY	 Acquired  STRATEGIC ADVISORY	 CAPPELLA EDUCATION COMPANY Acquired  STRATEGIC ADVISORY
  Acquired by  SALE TO A STRATEGIC	 The operating group of  Has completed the sale of  to  SALE TO PRIVATE EQUITY	 Acquired  STRATEGIC ADVISORY

Cherry Tree TEBS Team

Each of our senior investment bankers has many years of transaction experience as either an operating executive or private equity professional, in addition to deep investment banking experience.



Mik Gusenius
Director

- Joined Cherry Tree & Associates in 2007
- Over 10 years of middle market investment banking experience
- Completed more than 30 M&A transactions totaling more than \$1 billion of transaction value
- B.A., Economics, Gustavus Adolphus College
- M.B.A., University of Minnesota – Carlson School of Management



Elmer Baldwin
Managing Director

- Joined Cherry Tree & Associates in 2015
- Previously the President and CEO of five information technology companies (20 years)
- Strategic advisor and consultant to over 100 companies over last 30+ years
- Experience working with publicly-traded companies, private-equity syndicates, and owner-operator situations
- B.B.A., Finance, Loyola Marymount University



Dave Latzke
Managing Director

- Joined Cherry Tree & Associates in 2007
- Previously the CFO for two publicly-traded enterprise software companies (13 years)
- Previously with Arthur Andersen (11 years)
- B.A., Accounting, University of Northern Iowa
- Certified Public Accountant (inactive)



Ben Ikeda
Senior Associate

- Joined Cherry Tree & Associates in 2012
- Completed 18 M&A transactions
- Previously with Sterling Partners' Education Opportunity Fund, UnitedHealth Group and Mayo Clinic Ventures
- B.A., Economics, *magna cum laude* and *Phi Beta Kappa*, Gustavus Adolphus College
- M.B.A. Candidate, University of Chicago Booth School of Business



Alex Young
Analyst

- Joined Cherry Tree & Associates in 2017
- Previous experience with Grant Thornton's Transaction Advisory Services group
- B.B.A., Finance and Economics, University of Notre Dame – Mendoza College of Business

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